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EXAMINER

SHARMA, SUJATHA R

ART UNIT	PAPER NUMBER
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2684

DATE MAILED: 07/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/708,782

Applicant(s)

LI ET AL.

Examiner

Sujatha Sharma

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-13 rejected under 35 U.S.C. 103(a) as being unpatentable over Willars [US 6,507,567] in view of Garner [US 6,542,739].

Regarding claims 1,4,6,9,11,12, Willars discloses a method of efficient handling of connections in a mobile communications network.

Willars further discloses a method of receiving data packet from a packet data network, the data packet directed towards a mobile station serviced by the radio access network (RAN) and including a packet service quality level indicator (see col. 2, lines 13-65).

Willars further discloses a method of mapping the service quality level indicator to a corresponding set of RAN resources (see col. 2, line 54-col. 3, line 16).

Willars further discloses a method of allocating the corresponding set of RAN resources to service the transmission of the data packet to the mobile station and finally forwarding the data packet to the mobile station (see col. 2, line 54-col. 3, line 16). See also see Fig. 3

Willars however does not disclose a method of indicating the partial allocation of RAN resources and further does not indicate the full allocation of RAN resources.

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Garner, in the same field of invention, teaches a method of indicating the partial allocation of RAN resources and further indicate the full allocation of RAN resources. See col. 78, lines 52-56.

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to provide the teachings of Garner to Willars in order to permit the data channels to be optimally utilized.

Regarding claims 2,5,10, Willars further discloses a method of partial allocation of RAN resources and remarking the data with a new packet service quality indicator (see col. 3, lines 17-60, col. 10, lines 36-49).

Regarding claim 3,7,13, Willars discloses a method of receiving another packet data directed towards the mobile station that includes the packet service quality level indicator and remarking the data packet with the new packet service quality level indicator (see col. 3, lines 17-60, col. 9, line 61 – col. 10, line 49).

Regarding claim 8, Willars further discloses a method of notifying a packet data-servicing node (GPRS node in Fig. 1) of a packet service quality level corresponding to an allocated set of RAN resources. (see col. 1, lines 14-39).

Regarding claims 14 and 42, Willars further discloses a packet data service node/PDSN (GPRS node in Fig. 1) comprising of a first interface that interfaces PDSN to the packet network/internet (see Fig. 1), and a second interface that interfaces the PDSN to the RAN.

Willars further discloses a method of receiving data packet from a packet data network, the data packet directed towards a mobile station serviced by the radio access network (RAN) and including a packet service quality level indicator (see col. 2, lines 13-65).

Willars further discloses a method of mapping the service quality level indicator to a corresponding set of RAN resources (see col. 2, line 54-col. 3, line 16).

Willars further discloses a method of allocating the corresponding set of RAN resources to service the transmission of the data packet to the mobile station and finally forwarding the data packet to the mobile station (See Figs. 1,3, see col. 2, line 54-col. 3, line 16).

Willars however does not explicitly show the PDSN to comprise of a processor coupled to a processor bus and a memory coupled to the processor via the processor bus.

The examiner takes official notice that it is well known in the art for the GPRS node to comprise of a processor and a memory coupled to the processor.

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made for the GPRS node in Fig 1 to comprise of these elements namely the processor and the memory coupled to it in order to map the service quality level indicator to corresponding set of RAN resources and allocate the said set of resources for transmitting the data packet to the mobile station as discussed in col. 2, line 38 – col. 3, line 16.

Further, Willars does not disclose a method of indicating the partial allocation of RAN resources and further does not indicate the full allocation of RAN resources.

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Garner, in the same field of invention, teaches a method of indicating the partial allocation of RAN resources and further indicate the full allocation of RAN resources. See col. 78, lines 52-56.

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to provide the teachings of Garner to Willars in order to permit the data channels to be optimally utilized

Regarding claim 15, Willars further discloses a method of partial allocation of RAN resources and remarking the data with a new packet service quality indicator (see col. 3, lines 17-60, col. 10, lines 36-49).

Regarding claim 16, Willars discloses a method of receiving another packet data directed towards the mobile station that includes the packet service quality level indicator and remarking the data packet with the new packet service quality level indicator (see col. 3, lines 17-60, col. 9, line 61 – col. 10, line 49).

Regarding claims 17,19, Willars further discloses a method of receiving data packet from a packet data network, the data packet directed towards a mobile station serviced by the radio access network (RAN) and including a packet service quality level indicator (see col. 2, lines 13-65).

Willars further discloses a method of mapping the service quality level indicator to a corresponding set of RAN resources (see col. 2, line 54-col. 3, line 16).

Regarding claim 18, Willars discloses a method of receiving another packet data directed towards the mobile station that includes the packet service quality level indicator and remarking the data packet with the new packet service quality level indicator, the new packet service quality level indicator corresponding to the partial set of RAN resources that have been allocated to the mobile station (see col. 3, lines 17-60, col. 9, line 61 – col. 10, line 49).

Regarding claims 20,22-24 and 43, Willars further discloses a base station controller (RNC in Fig.1) comprising of a first interface that interfaces the RNC to PDSN (GPRS node in Fig. 1), and a second interface that interfaces the BSC to the remaining portions of RAN. See Fig. 1. Willars further discloses a processor in the RNC (SEE Fig. 9) to perform the following:

- a method of receiving data packet from a packet data network, the data packet directed towards a mobile station serviced by the radio access network (RAN) and including a packet service quality level indicator (see col. 2, lines 13-65).

- a method of mapping the service quality level indicator to a corresponding set of RAN resources (see col. 2, line 54-col. 3, line 16).

- a method of allocating the corresponding set of RAN resources to service the transmission of the data packet to the mobile station and finally forwarding the data packet to the mobile station (see col. 2, line 54-col. 3, line 16).

Also see Figs. 1,3.

Willars however does not explicitly show a memory coupled to the processor via the processor bus.

The examiner takes official notice that it is well known in the art for the RNC to comprise of a processor and a memory coupled to the processor bus.

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made for the RNC in Fig 1 to comprise of the memory coupled to the processor in order to map the service quality level indicator to corresponding set of RAN resources and allocate the said set of resources for transmitting the data packet to the mobile station as discussed in col. 2, line 38 – col. 3, line 16.

Regarding claim 21, Willars discloses a method of receiving another packet data directed towards the mobile station that includes the packet service quality level indicator and remarking the data packet with the new packet service quality level indicator (see col. 3, lines 17-60, col. 9, line 61 – col. 10, line 49).

Regarding claims 25,27-29 and 44, Willars further discloses a packet control function (packet handler 50 in Fig.3) in the base station controller (RNC in Fig.1) comprising of a first interface that interfaces the RNC to PDSN (GPRS node in Fig. 1), and a second interface that interfaces the BSC to the remaining portions of RAN. See Fig. 1. Willars further discloses a processor in the RNC (See Fig. 9) to perform the following:

- a method of receiving data packet from a packet data network, the data packet directed towards a mobile station serviced by the radio access network (RAN) and including a packet service quality level indicator (see col. 2, lines 13-65).



-a method of mapping the service quality level indicator to a corresponding set of RAN resources (see col. 2, line 54-col. 3, line 16).

-a method of allocating the corresponding set of RAN resources to service the transmission of the data packet to the mobile station and finally forwarding the data packet to the mobile station (see col. 2, line 54-col. 3, line 16).

Willars however does not explicitly show a memory coupled to the processor via the processor bus.

The examiner takes official notice that it is well known in the art for the RNC to comprise of a processor and a memory coupled to the processor bus.

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made for the RNC in Fig 1 to comprise of the memory coupled to the processor in order to map the service quality level indicator to corresponding set of RAN resources and allocate the said set of resources for transmitting the data packet to the mobile station as discussed in col. 2, line 38 – col. 3, line 16.

Regarding claim 26, Willars discloses a method of receiving another packet data directed towards the mobile station that includes the packet service quality level indicator and remarking the data packet with the new packet service quality level indicator (see col. 3, lines 17-60, col. 9, line 61 – col. 10, line 49).

1. Claims 30-35,36-41,45 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Willars [US 6,507,567] and Garner [US 6,542,739] in view of Einola [US 6,438,370].

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Regarding claim 30-35,36-41,45 and 46, Willars as treated in claims 20 and 25 discloses all the limitations as claimed. However, Willars does not disclose a method of indicating the partial allocation of RAN resources and further does not indicate the full allocation of RAN resources.

Garner, in the same field of invention, teaches a method of indicating the partial allocation of RAN resources and further indicate the full allocation of RAN resources. See col. 78, lines 52-56.

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to provide the teachings of Garner to Willars in order to permit the data channels to be optimally utilized

Further Willars does not disclose a method where the processor causes the BSC/PCF to indicate to the PDSN the successful/unsuccessful allocation of resources.

Einola teaches a method where BSC indicates to the SGSN/PDSN the successful allocation of resources. See col. 11, lines 35-46.

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to include the above teachings of Einola to Willars in order that the SGSN/PDSN is aware of the available resources for further allocation process and for other data packets.

### ***Response to Arguments***

2. Applicant's arguments with respect to claim 1-46 have been considered but are moot in view of the new ground(s) of rejection.

*Conclusion*

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Montpetit [US 6,366,761] Priority based bandwidth allocation and bandwidth on demand in a low earth orbit satellite data communication network

Bose [US 2004/0107281] Dynamic allocation of network resources in a multiple user communication network

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sujatha Sharma whose telephone number is 703-305-5298. The examiner can normally be reached on Mon-Fri 7.30am - 4.00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 703-308-7745. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Sujatha Sharma  
June 23, 2004

  
**NAY MAUNG**  
**SUPERVISORY PATENT EXAMINER**